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ABSTRACT

This document introduces the underlying principles and components of Ohio's Integrated Technical and Academic Competencies (ITAC) system of career-focused education, which combines high-level academics and technical skills with a real-life context for learning that maximizes students' present and future academic and career success. The document begins with an overview of the following elements that, together, constitute the ITAC system: (1) core ITAC (51 competencies organized into six strands essential for all careers and sample work-related scenarios); (2) career cluster ITAC (foundation competencies common to related occupations or industries and sample work-related scenarios); and (3) specialization ITAC (55 competencies and sample scenarios critical to success in a specific industry or occupation within a career cluster). Provided next are guidelines for using the ITAC. Each of the next six sections present expectations, competencies, and scenarios for one of the ITAC system's six strands, which are as follows: solving problems and thinking skillfully; communicating effectively; applying technology; working responsibly; planning and managing a career; and managing resources. Concluding the document is a table detailing connections with the following academic areas in the core ITAC: the arts, mathematics, social studies, language arts, foreign language, and science. (MN)

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ITAC

Integrated Technical & Academic Competencies

CORE ITAC

for Career-Focused Education

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2

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Contents

PAGE

Career-Focused Education 3

Components of the ITAC System 4

Core ITAC 5

Components of Core ITAC 6

Strand 1: Solving Problems and Thinking Skillfully 9

Strand 2: Communicating Effectively 15

Strand 3: Applying Technology 21

Strand 4: Working Responsibly 25

Strand 5: Planning and Managing a Career 29

Strand 6: Managing Resources 35

Academic Connections in Core ITAC 41

The Arts

Mathematics

Social Studies

Language Arts

Foreign Language

Science

Acknowledgments 45

Career-Focused Education

Career-Focused Education combines high-level academics and technical skills with a real-life context for learning that maximizes students' present and future academic and career success. Career-focused education strengthens—

- proficiency test success
- integrated instruction
- partnerships between education and business & industry
- aquisition of transferable career skills

ITAC

Integrated Technical & Academic Competencies for Career-Focused Education

Ohio Department of Education
Division of Career-Technical and Adult Education

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Components of the ITAC System

Integrated Technical and Academic Competencies (ITAC) documents consist of competencies that integrate academic, technical, and employability knowledge, skills, and attitudes. ITACs are presented in resource documents that include the expectations, competencies, scenarios, and academic connections. ITACs are developed through—

- review and synthesis of national academic, employability, and occupational standards;
- review by teachers—both vocational and academic;
- validation by business and industry representatives; and
- direct links to Ohio's competency-based education (CBE) models, proficiency test learning outcomes, and ACT Work Keys® System.

ITAC Model

Three types of ITACs form this model:

Core ITAC – Consists of 51 competencies organized into six strands essential for all careers and sample work-related scenarios. Core ITAC represents what individuals need to know and be able to do to be successful in further education, in a career, and in life.

Career Cluster ITAC – Consists of the foundational competencies common to related occupations or industries and sample work-related scenarios. The six Career Cluster ITACs provide a broad foundation for entry-level, technical, and professional careers.

Specialization ITAC – Consists of competencies and sample scenarios critical to success in a specific industry or occupation within a career cluster. Currently, 55 Occupational Competency Analysis Profiles (OCAPs) represent the Specialization Competencies. As OCAPs are revised, they will become Specialization ITACs.

The ITAC system builds on and expands the Occupational Competency Analysis Profile (OCAP) system, which was designed primarily for occupation-specific vocational programs. The ITAC system provides a broader range of competencies, integrates academic knowledge and skills with technical content, and provides sample scenarios to illustrate work-related context. This system is a resource for ***both*** academic and technical teachers as they plan programs and instruction.

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How to Use ITACs

Integrated Technical and Academic Competencies (ITAC) documents are resources for planning programs. The competencies of the ITAC system integrate technical and academic content and are organized into three types, moving from broad to specific—core, career cluster, and specialization. The types are interrelated building blocks for program design. *Core* provides the broad competencies. *Career Cluster* incorporates use of *Core* competencies. *Specialization* incorporates application of both the related *Career Cluster* and *Core* competencies. These ITAC types can be integrated into the overall educational system as follows:

- The Core ITAC could be used to design learning experiences for all students.
- The Career Cluster ITACs—in combination with Core ITAC—could be used to guide courses or experiences in which students explore and develop essential competencies within one of the following career clusters:

  ✔ **Arts & Communication**

  ✔ **Business & Management**

  ✔ **Environmental & Agricultural Systems**

  ✔ **Health Services**

  ✔ **Human Resources/Services**

  ✔ **Industrial & Engineering Systems**

- Specialization ITACs—in combination with Core ITAC and Cluster ITACs—could be used for those programs, courses, and experiences with specific technical skill development.

As a curricular and instructional planning tool, ITACs identify the knowledge, skills, and attitudes needed to help students prepare for academic and career success. ITAC documents foster the development of interdisciplinary projects and learning experiences by illustrating the relationships between broad-based career skills and academic content. Educators can use the components of the ITACs in a number of ways for classroom instruction:

- Competencies can be reviewed and relevant competencies selected for instruction.
- Connections that need to be made between competencies and academic skills can be identified.
- Scenarios can be used as a basis for learning experiences.

Components of Core ITAC

Expectation – a statement of desired workplace behaviors and their importance in the world of work.

Competencies – observable and measurable knowledge, skills, and attitudes essential to achievement of the expectation.

Each strand in Core ITAC has an introduction page which identifies the strand (in words and by icon).

Working Responsibly
Expectation
Work organizations value employees who possess the ability to work with diverse groups of people and who are able to lead others toward the achievement of common goals. Individuals must demonstrate a positive work ethic—exhibiting honesty, initiative, and dependability. In addition, they should understand the importance of ethical conduct and the role of ethics in professional organizations and work environments.
Competencies
Demonstrate leadership
Contribute to teamwork
Choose ethical courses of action in all work assignments and personal interactions
Demonstrate the work ethic
Comply with the confidentiality requirements of workplace policies and procedures
Apply appropriate strategies for dealing with the differences associated with diversity (e.g. racial, ethnic, gender, educational, personality, social, and age)
Scenario
Guiding Questions

Sample Scenario – a real-life workplace situation requiring learners to apply the knowledge and skills reflected in the strand competencies.

Sample Guiding Questions – targeted questions to use in focusing learners' attention on knowledge and skills covered in the scenario.

Solving Problems and Thinking Skillfully

Communicating Effectively

Applying Technology

Working Responsibly

Planning and Managing a Career

Managing Resources

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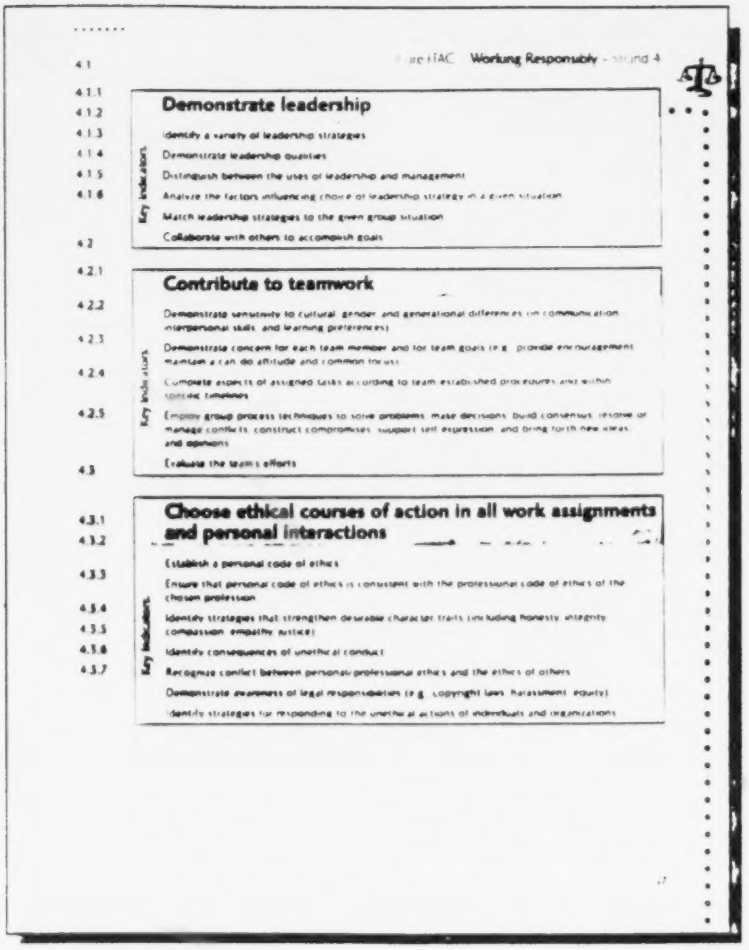


4.1 Core ITAC – Working Responsibly – Strand 4

Demonstrate leadership

Key indicators:
- 4.1.1 Identify a variety of leadership strategies
- 4.1.2 Demonstrate leadership qualities
- 4.1.3 Distinguish between the uses of leadership and management
- 4.1.4 Analyze the factors influencing choice of leadership strategy in a given situation
- 4.1.5 Match leadership strategies to the given group situation
- 4.1.6 Collaborate with others to accomplish goals

4.2

Contribute to teamwork

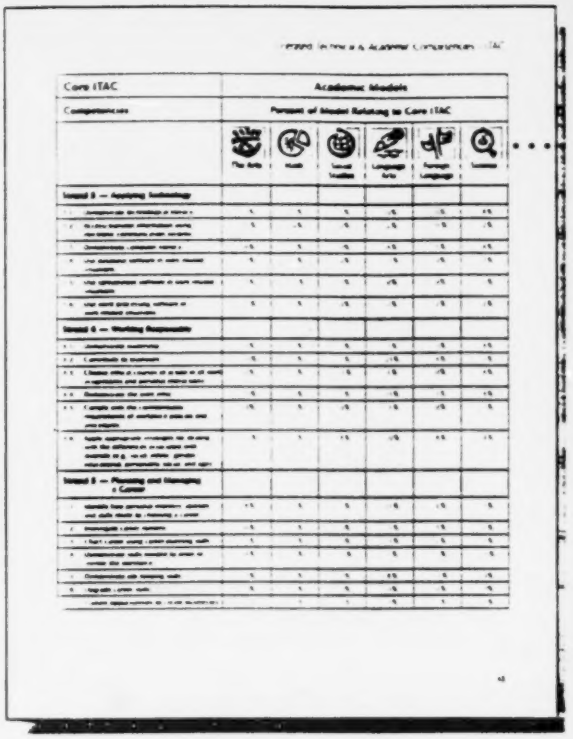
Key indicators:
- 4.2.1 Demonstrate sensitivity to cultural, gender, and generational differences (in communication, interpersonal skills, and learning preferences)
- 4.2.2 Demonstrate concern for each team member and for team goals (e.g., provide encouragement, maintain a can do attitude and common focus)
- 4.2.3 Complete aspects of assigned tasks according to team established procedures and within specific timelines
- 4.2.4 Employ group process techniques to solve problems, make decisions, build consensus, resolve or manage conflicts, construct compromises, support self expression, and bring forth new ideas and opinions
- 4.2.5 Evaluate the team's efforts

4.3

Choose ethical courses of action in all work assignments and personal interactions

Key indicators:
- 4.3.1 Establish a personal code of ethics
- 4.3.2 Ensure that personal code of ethics is consistent with the professional code of ethics of the chosen profession
- 4.3.3 Identify strategies that strengthen desirable character traits (including honesty, integrity, compassion, empathy, justice)
- 4.3.4 Identify consequences of unethical conduct
- 4.3.5 Recognize conflict between personal/professional ethics and the ethics of others
- 4.3.6 Demonstrate awareness of legal responsibilities (e.g., copyright laws, harassment, equity)
- 4.3.7 Identify strategies for responding to the unethical actions of individuals and organizations

Pages following the overview list each competency with its key indicators. Key indicators describe significant elements of competency performance.



Core ITAC Competencies | Academic Models: Percent of Model Relating to Core ITAC

Strand 3 — Applying Technology

Strand 4 — Working Responsibly

Strand 5 — Planning and Managing Activities

Connections to Academic Models – the percentage of objectives from Ohio's Competency-Based Education Models, grades PreK – 12, that relate to and/or reinforce the competencies in the given strand. Each academic area is represented by an icon.

The Arts

Mathematics

Social Studies

Language Arts

Foreign Language

Science

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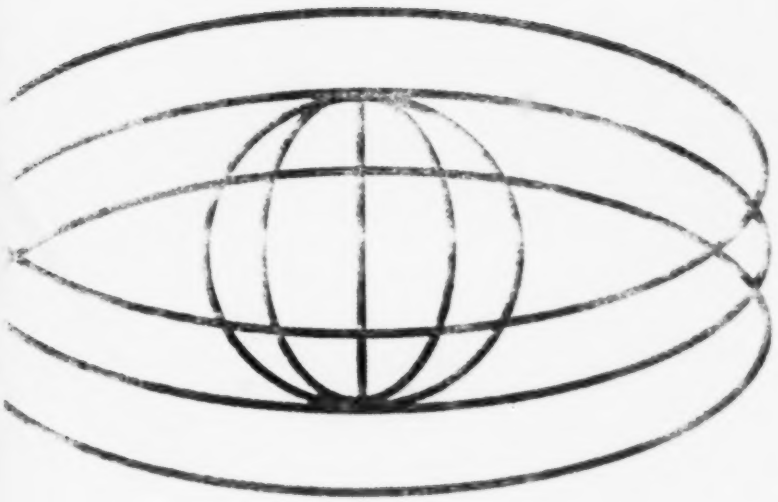

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Expectation

All individuals, regardless of career choice, must be able to think for themselves; initiate action on their own; and direct, modify, and assess their own work. Employers seek lifelong learners who can locate and use information. The following competencies specify the knowledge, skills, and attitudes needed to develop the capacity to assess problems and situations, anticipate what might happen next, and continuously search for creative solutions.

Competencies

1.1 Solve problems and make decisions in work-related situations

1.2 Read for information and understanding

1.3 Use observation skills to analyze work-related situations

1.4 Apply mathematical processes

1.5 Apply measurement and spatial skills

1.6 Apply statistical analysis skills

1.7 Analyze critical data to guide work activities

1.8 Utilize scheduling techniques to ensure that jobs are completed by the stated due date

1.9 Demonstrate knowledge of the economy and how it functions as a whole

1.10 Demonstrate knowledge of the economy as a framework within which decisions are made by individuals and groups

Scenario

You are among a team of architects hired to plan the revitalization of a deteriorating historic area in your community. In spite of a rich ethnic history and residents who are committed to seeing the area thrive, the neighborhood is plagued by inadequate housing, abandoned buildings, lack of transportation, crime, and declining businesses. The City Planning Commission is prepared to provide resources to encourage economic development, recreation areas, and better housing. Create a design for the neighborhood and present your plans to the commission for their approval.

Guiding Questions

- What alternative uses should be considered for the land to best meet the needs of the community and its citizens?
- What historic and current economic, social, and environmental factors should be considered in the creation of the plan?
- What data regarding the needs and concerns of citizens and businesses in the community would inform the design of the neighborhood? How should this data be collected, analyzed, and presented?

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1.1 Solve problems and make decisions in work-related situations

Key Indicators:

- 1.1.1 Identify factors that influence problem solving and decision making
- 1.1.2 Analyze the source of the problem or the situation requiring a decision
- 1.1.3 Generate possible alternatives
- 1.1.4 Analyze possible alternatives
- 1.1.5 Match problem-solving and decision-making processes to the situation
- 1.1.6 Use creative thinking processes to support solving problems and making decisions
- 1.1.7 Justify solution or decision with evidence to support or refute alternatives
- 1.1.8 Formulate action plans
- 1.1.9 Implement action plans
- 1.1.10 Evaluate action taken
- 1.1.11 Monitor action plans
- 1.1.12 Adjust action plans as needed

1.2 Read for information and understanding

Key Indicators:

- 1.2.1 Locate needed information in written materials using formatting cues, skimming, and scanning
- 1.2.2 Interpret written information, including manuals, graphs, and schedules
- 1.2.3 Unlock the meaning of unknown or technical vocabulary using standard strategies (e.g., context clues, prefixes, suffixes)
- 1.2.4 Locate key points, main ideas, relevant details, facts, and specifications in written materials
- 1.2.5 Judge the accuracy, appropriateness, style, and plausibility of information, proposals, or theories in materials read

1.3 Use observation skills to analyze work-related situations

Key Indicators:

- 1.3.1 Collect data through sensory perceptions—seeing, hearing, tasting, touching, and smelling
- 1.3.2 Identify predictable patterns and relationships in given situations
- 1.3.3 Monitor situations for deviations
- 1.3.4 Identify patterns and relationships that create doubt, uncertainty, difficulty, or disappointment
- 1.3.5 Devise appropriate responses to given situations
- 1.3.6 Apply past observations to present work-related situations

1.4 Apply statistical analysis skills

Key Indicators:

- 1.4.1 Solve mathematical problems involving whole numbers and integers
- 1.4.2 Solve mathematical problems involving fractions, mixed numbers, decimals, percentages, ratios, and proportions
- 1.4.3 Apply systematic counting techniques and algorithmic thinking to represent, analyze, and solve problems
- 1.4.4 Use estimates to determine reasonableness of proposed problem solutions
- 1.4.5 Use appropriate technology in the solution of math-related problems
- 1.4.6 Describe problem situations using numerical, symbolic, and graphical representations
- 1.4.7 Apply combinations of algebraic techniques
- 1.4.8 Represent problem situations with geometric models (including applying the properties of figures)
- 1.4.9 Express mathematical ideas orally and in writing

1.5 Apply measurement and spatial skills

Key Indicators:

- 1.5.1 Demonstrate knowledge of units of measurement
- 1.5.2 Select measurement techniques appropriate for given situation
- 1.5.3 Match measurement tools to measurement requirements
- 1.5.4 Determine degree of accuracy required for given situation
- 1.5.5 Analyze implications of the degree of accuracy of various measurements

1.6 Apply mathematical processes

Key Indicators:

- 1.6.1 Estimate probability using standard techniques and formulas
- 1.6.2 Analyze software options available for statistical analysis
- 1.6.3 Select software option most appropriate for given situation
- 1.6.4 Analyze statistical data using selected software
- 1.6.5 Make inferences or predictions based on data analysis
- 1.6.6 Represent statistical data using tables, charts, and graphs

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1.7 **Analyze critical data to guide work activities**

Key Indicators:

1.7.1 Identify critical data needed

1.7.2 Determine the level of detail necessary for various situations according to prescribed procedures (including task analysis; procedural analysis; financial activities; personnel matters; customer contacts; noncompliance and violations; and/or deviations from normal operation of processes, equipment and instrumentation)

1.7.3 Ensure that documentation is complete and error-free and provides valid and reliable evidence

1.7.4 Ensure that documentation is in compliance with established procedures

1.7.5 Analyze documentation to determine appropriate actions for specific situations

1.8 **Utilize scheduling techniques to ensure that jobs are completed by the stated due date**

Key Indicators:

1.8.1 Develop schedules for equipment maintenance

1.8.2 Develop schedules for materials production, handling, and distribution

1.8.3 Develop meeting schedules

1.8.4 Distribute schedules to all concerned personnel

1.8.5 Implement schedules as planned

1.8.6 Make changes in schedules as appropriate

1.9 **Demonstrate knowledge of the economy and how it functions as a whole**

Key Indicators:

1.9.1 Analyze how individuals and societies make choices to satisfy wants with limited resources

1.9.2 Analyze how factors of production (including land, labor, capital, and entrepreneurship) are used to produce goods and services

1.9.3 Analyze how individuals and households exchange their resources for income in order to buy goods and services

1.9.4 Analyze how individuals and business firms use resources to produce goods and services to generate revenue

1.9.5 Identify the characteristics of command, market, and traditional economies

1.9.6 Analyze how all levels of government assess taxes in order to provide services

1.10 **Demonstrate knowledge of the economy as a framework within which decisions are made by individuals and groups**

Key Indicators:

1.10.1 Determine opportunity costs and trade-offs

1.10.2 Identify key individuals and groups that make economic decisions at the local, state, national, and international levels

1.10.3 Identify the important roles that local, state, national, and international governments play in a global economy

1.10.4 Characterize how government decisions affect individuals

1.10.5 Identify how geographic factors affect the political and economic systems of other countries

1.10.6 Analyze how national and international markets allocate goods and services

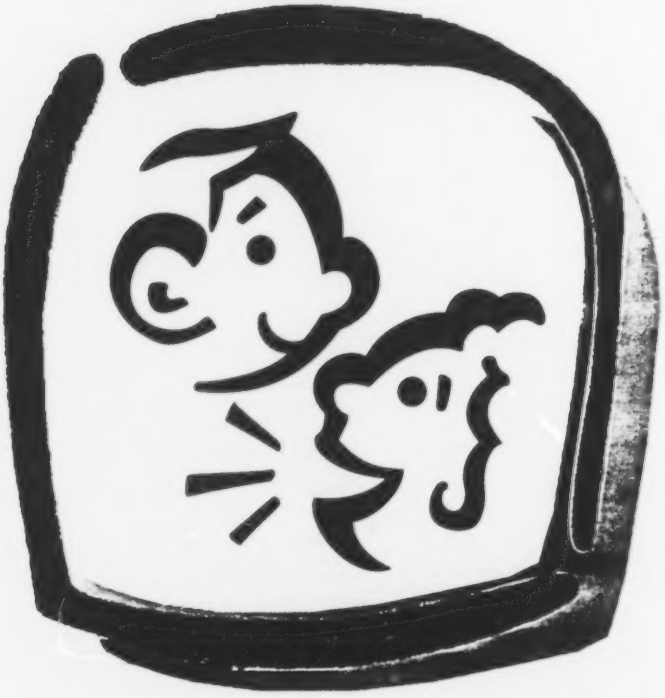
1.10.7 Analyze how resources, goods, and services are exchanged in national and international markets

1.10.8 Demonstrate knowledge of competition and how it affects national and international markets

1.10.9 Demonstrate knowledge of supply and demand and how it affects national and international markets

Communicating Effectively - Strand **2**

Core ITAC



Expectation

Effective communication is essential to workplaces, communities, and families. Employees with positive communication skills contribute to organizational productivity, enhance interpersonal relationships with coworkers and clients, and create opportunities for promotion and advancement.

Competencies

2.1 Apply basic communication skills
2.2 Apply oral communication skills
2.3 Apply written communication skills
2.4 Apply technical writing skills
2.5 Apply listening skills
2.6 Apply demonstration/presentation skills
2.7 Apply graphic communication skills
2.8 Apply artistic communication skills
2.9 Convey information through multimedia presentations
2.10 Create graphs and charts
2.11 Build interpersonal relationships

Scenario

The Chamber of Commerce in your city would like to develop materials to attract new businesses to the community. Your public relations firm has been hired to create promotional materials that highlight your community's resources, rich ethnic history, and workforce. Create these materials and present them to a variety of community members, including business and industry representatives, private citizens, and civic leaders.

Guiding Questions

- What communication tools should be used to convey this information to the target audiences?
- How will you use creative or artistic expression to communicate the information to the target audience?
- What historic and current events have contributed to the city's resources, ethnic diversity, and workforce?
- How will you work with community groups and representatives to build support for your promotional materials?

2.1 Apply basic communication skills

Key Indicators:

2.1.1 Guide communication activities using established rules for grammar, word usage, spelling, and sentence construction

2.1.2 Select communication style appropriate to audience and situation

2.1.3 Present messages in a form that assists recipient's understanding (e.g., speak and write clearly and concisely, write legibly)

2.1.4 Locate needed information using communications reference tools (e.g., dictionary, thesaurus, style manual, word division guide)

2.1.5 Interpret oral, written, and nonverbal messages

2.1.6 Follow written and oral instructions

2.1.7 Clarify messages received (e.g., through paraphrasing, questioning)

2.1.8 Communicate basic messages in a language other than English

2.2 Apply oral communication skills

Key Indicators:

2.2.1 Apply basic communication skills in communicating orally

2.2.2 Use nonverbal techniques to reinforce the intended verbal message

2.2.3 Support oral communication with creative attention-getters, analogies, examples, verbal illustrations, etc.

2.2.4 Supplement oral communication with other forms of communication (including graphic, written, artistic)

2.2.5 Demonstrate sensitivity to cultural diversity (e.g., accepted variations in distances between speakers, use of eye contact, meaning of gestures; bias-free language)

2.2.6 Adjust delivery according to perceived reception

2.3 Apply written communication skills

Key Indicators:

2.3.1 Apply basic communication skills in communicating in written form

2.3.2 Organize information into the appropriate format in accordance with standard practices (including prewriting, drafting, proofreading, editing/revising, preparing final copy/publishing)

2.3.3 Incorporate creative and original elements (e.g., unique writing style, content, layout) in the written product

2.3.4 Supplement written communication with other forms of communication (including graphic, oral, artistic)

2.3.5 Demonstrate sensitivity to cultural diversity

2.3.6 Use technology (e.g., spelling checkers) to enhance accuracy

2.4 Apply technical writing skills

Key Indicators:

- 2.4.1 Apply basic communication skills
- 2.4.2 Consider topic in relation to the audience and purpose
- 2.4.3 Determine when graphics, charts, and sketches are needed to support and clarify text
- 2.4.4 Present information in a clear and concise manner

2.5 Apply listening skills

Key Indicators:

- 2.5.1 Identify major points of the message (including key information, directions, specific details)
- 2.5.2 Determine real needs or goals by attending to both verbal and nonverbal messages
- 2.5.3 Differentiate between facts, opinions, and feelings
- 2.5.4 Document message using standard note-taking techniques
- 2.5.5 Overcome communication barriers
- 2.5.6 Clarify communication by rephrasing statements, asking questions, showing empathy, and interpreting both verbal and nonverbal information

2.6 Apply demonstration/presentation skills

Key Indicators:

- 2.6.1 Apply basic communication skills in presenting a demonstration/presentation
- 2.6.2 Select valid and reliable reference(s)
- 2.6.3 Organize content based on purpose and audience
- 2.6.4 Determine desirable format
- 2.6.5 Incorporate creative and original elements into the demonstration/presentation
- 2.6.6 Organize the components necessary to conduct a demonstration/presentation (including resources, equipment, handouts, graphics, advance organizers)
- 2.6.7 Incorporate media that support the purpose of the demonstration/presentation (including projection equipment, computer software)
- 2.6.8 Present the results of an investigation
- 2.6.9 Demonstrate the operation of equipment or facilities and/or given techniques and procedures
- 2.6.10 Communicate possible problems, processes, and solutions
- 2.6.11 Demonstrate knowledge of the topic(s) to be communicated
- 2.6.12 Use self-expression appropriate to the situation (including grooming, adjustment of behavior, expression of feelings and ideas)
- 2.6.13 Convey information to audience according to accepted business communication practices
- 2.6.14 Adjust communication according to audience feedback

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2.7 Apply graphic communication skills

Key Indicators:

2.7.1 Apply basic communication skills in communicating through graphics

2.7.2 Ensure that all information is accurate and complete

2.7.3 Specify graphics needed to support presentations

2.7.4 Communicate information using graphics in, print, poster, or transparency form

2.7.5 Communicate information using slides prepared with presentation software

2.7.6 Incorporate creative and original elements into graphics

2.7.7 Employ effective design techniques in development of graphics (including space, lines, shading, shaping, symbols)

2.7.8 Demonstrate sensitivity to cultural diversity

2.8 Apply artistic communication skills

Key Indicators:

2.8.1 Apply basic communication skills in communicating artistically

2.8.2 Participate in a wide variety of experiences that expose self to an appreciation of the arts disciplines—dance, music, theater, and the visual arts

2.8.3 Analyze exemplary works through the relationship between artistic practices, products, and perspectives

2.8.4 Interpret historical and modern artifacts

2.8.5 Demonstrate artistic and creative techniques of production and performance

2.8.6 Create an original artifact or performance that demonstrates an understanding of history and culture

2.9 Convey information through multimedia presentations

Key Indicators:

2.9.1 Organize content based on purpose and audience

2.9.2 Evaluate which set of procedures, tools, or equipment will produce the desired results

2.9.3 Produce a presentation, including designing, creating, importing data and graphics, editing, formatting, and sequencing

2.9.4 Operate multimedia equipment

2.9.5 Apply problem-solving techniques to resolve problems encountered in the process of designing and implementing multimedia presentations

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2.10		**Create graphs and charts**
2.10.1	Key Indicators:	Access sources of needed information
2.10.2		Select data for inclusion
2.10.3		Convert data into chosen graphical format
2.10.4		Ensure that the results are correctly represented (including font, scale, size)
2.10.5		Draw conclusions from information presented in graphs and charts

2.11		**Build interpersonal relationships**
2.11.1	Key Indicators:	Demonstrate knowledge of the components of effective communication
2.11.2		Relate to people of different ages, abilities, genders, cultures, and behavior styles
2.11.3		Demonstrate caring, empathy, and appreciation for others
2.11.4		Communicate personal feelings, needs, and ideas constructively
2.11.5		Demonstrate effective listening skills
2.11.6		Manage conflict and stress

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Applying Technology - Strand 3

Core ITAC

Expectation

Technology influences every work environment. To be effective in today's workplace, individuals must be able to use the tools of technology to improve productivity and efficiency. Employers seek individuals who have developed technological skills and who stay abreast of the continuously changing technological environment.

Competencies

3.1 Demonstrate technological literacy

3.2 Access/transmit information using electronic communication systems

3.3 Demonstrate computer literacy

3.4 Use database software in work-related situations

3.5 Use spreadsheet software in work-related situations

3.6 Use word-processing software in work-related situations

Scenario

You own a company that sells and maintains a wide variety of office equipment and computer systems. A small, family-owned business has asked you to develop a proposal for equipping its organization with the technology necessary to improve its productivity and customer service. Prepare a proposal with your recommendations, and present it to the owners of the business to persuade them to accept your proposal.

Guiding Questions

- How have technological innovations influenced workplace performance?
- What information do you need about this business to determine its technological needs?
- How will you obtain that information?
- What hardware, software, and online services does this business need?
- What communication tools will you need to persuade this business to accept your proposal?

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3.1 Demonstrate technological literacy

Key Indicators:

- 3.1.1 Demonstrate knowledge of the basic technology systems currently available (e.g., manufacturing technology, organizing and accessing information for technology)
- 3.1.2 Analyze the interplay of technology with social issues, gender issues, ethics, law, and government
- 3.1.3 Identify the uses of technology in industry, education, the political arena, and day-to-day consumer affairs
- 3.1.4 Analyze the benefits and costs of new developments in technology
- 3.1.5 Make decisions about the use of technology that improve performance in the workplace, in school, and in the home

3.2 Access/transmit information using electronic communication systems

Key Indicators:

- 3.2.1 Determine which systems are most appropriate for given situations
- 3.2.2 Transmit messages electronically
- 3.2.3 Access information electronically (e.g., via information services, CD-ROMs, laser disks, videos, and the Internet)
- 3.2.4 Conduct searches electronically
- 3.2.5 Participate in electronic discussion groups

3.3 Demonstrate computer literacy

Key Indicators:

- 3.3.1 Choose the hardware, software, and online services that will produce the desired results
- 3.3.2 Comply with ethical standards in the acquisition, organization, analysis, and communication of information
- 3.3.3 Keep informed of legal parameters regarding computers
- 3.3.4 Provide routine maintenance and repair of computer hardware and software
- 3.3.5 Write basic computer programs for given purposes

3.4 Use database software in work-related situations

Key Indicators:

- 3.4.1 Demonstrate knowledge of the functions and features of database software
- 3.4.2 Identify the type of data needed
- 3.4.3 Determine the best database to aid in the collection, tabulation, synthesis, and evaluation of the particular data identified
- 3.4.4 Locate needed operations information using software documentation or help functions
- 3.4.5 Construct database for the specified purpose
- 3.4.6 Access needed information from the database
- 3.4.7 Select report design for presenting data

3.5 **Use spreadsheet software in work-related situations**

Key Indicators:

3.5.1 Demonstrate knowledge of the functions and features of spreadsheet software

3.5.2 Identify the type of data needed

3.5.3 Determine the best spreadsheet to aid in the collection, tabulation, synthesis, and evaluation of the identified data

3.5.4 Locate needed operations information using software documentation or help functions

3.5.5 Construct spreadsheet for the specified purpose

3.5.6 Analyze data

3.5.7 Interpret results

3.6 **Use word-processing software in work-related situations**

Key Indicators:

3.6.1 Demonstrate knowledge of the functions and features of word-processing software

3.6.2 Construct word-processed documents for the specified purpose

3.6.3 Locate needed operations information using software documentation or help functions

3.6.4 Integrate databases, spreadsheets, graphics, and desktop publishing files into word-processed documents

3.6.5 Edit documents using available software features and functions

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Expectation

Work organizations value employees who possess the ability to work with diverse groups of people and who are able to lead others toward the achievement of common goals. Individuals must demonstrate a positive work ethic—exhibiting honesty, initiative, and dependability. In addition, they should understand the importance of ethical conduct and the role of ethics in professional organizations and work environments.

Competencies

4.1 Demonstrate leadership

4.2 Contribute to teamwork

4.3 Choose ethical courses of action in all work assignments and personal interactions

4.4 Demonstrate the work ethic

4.5 Comply with the confidentiality requirements of workplace policies and procedures

4.6 Apply appropriate strategies for dealing with the differences associated with diversity (e.g., racial, ethnic, gender, educational, personality, social, and age)

Scenario

You are the director of human resources for a chain of retail stores. Lately there have been several incidents in which employees have treated customers rudely or unfairly because of the customers' racial or ethnic background. You have been asked to provide training for employees that will encourage an appreciation of diversity, positive relations with customers, and an understanding of the legal and economic implications of inappropriate behavior. Present the training plan to your company's management team for their approval.

Guiding Questions

- What are the benefits of multicultural diversity? What can business organizations do to support an appreciation of diversity?
- What are the contributions of various ethnic groups to businesses, communities, and society?
- What are the legal, social, and economic consequences of prejudicial or discriminatory actions for individuals, businesses, and communities?
- What laws prohibit discriminatory actions? In what context were these laws enacted?

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4.1 Demonstrate leadership

Key Indicators:

4.1.1 Identify a variety of leadership strategies

4.1.2 Demonstrate leadership qualities

4.1.3 Distinguish between the uses of leadership and management

4.1.4 Analyze the factors influencing choice of leadership strategy in a given situation

4.1.5 Match leadership strategies to the given group situation

4.1.6 Collaborate with others to accomplish goals

4.2 Contribute to teamwork

Key Indicators:

4.2.1 Demonstrate sensitivity to cultural, gender, and generational differences (in communication, interpersonal skills, and learning preferences)

4.2.2 Demonstrate concern for each team member and for team goals (e.g., provide encouragement, maintain a can-do attitude and common focus)

4.2.3 Complete aspects of assigned tasks according to team-established procedures and within specific timelines

4.2.4 Employ group process techniques to solve problems, make decisions, build consensus, resolve or manage conflicts, construct compromises, support self-expression, and bring forth new ideas and opinions

4.2.5 Evaluate the team's efforts

4.3 Choose ethical courses of action in all work assignments and personal interactions

Key Indicators:

4.3.1 Establish a personal code of ethics

4.3.2 Ensure that personal code of ethics is consistent with the professional code of ethics of the chosen profession

4.3.3 Identify strategies that strengthen desirable character traits (including honesty, integrity, compassion, empathy, justice)

4.3.4 Identify consequences of unethical conduct

4.3.5 Recognize conflict between personal/professional ethics and the ethics of others

4.3.6 Demonstrate awareness of legal responsibilities (e.g., copyright laws, harassment, equity)

4.3.7 Identify strategies for responding to the unethical actions of individuals and organizations

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4.4 **Demonstrate the work ethic**

Key Indicators:

4.4.1 Exhibit desirable personal and professional attitudes and behaviors (including positive view of self and work, awareness of impact on others, responsibility, pride)

4.4.2 Exhibit desirable personal and professional work habits and behaviors (including punctuality, regular attendance, quality performance, meeting or exceeding of job expectations, self-motivation, honesty)

4.4.3 Determine own role within the company's mission

4.4.4 Participate in required and voluntary professional development to benefit employer and self

4.4.5 Improve performance for the benefit of employer and self

4.4.6 Display a sense of personal responsibility for the welfare of the company and colleagues (including health, safety, environmental concerns)

4.4.7 Distinguish between work ethics of various organizations, work groups, and cultures

4.5 **Comply with the confidentiality requirements of workplace policies and procedures**

Key Indicators:

4.5.1 Identify types of confidential information (including mail and information about personnel, customers, company)

4.5.2 Maintain records on the distribution of information using established format and procedures

4.5.3 Provide information only to authorized personnel, whether transmitted physically or via technology

4.5.4 Inspect returned materials for completeness

4.5.5 Identify the consequences of a breach of confidentiality

4.6 **Apply appropriate strategies for dealing with the differences associated with diversity (e.g., racial, ethnic, gender, educational, social and age)**

Key Indicators:

4.6.1 Recognize the differences associated with diversity and the implications of those differences

4.6.2 Demonstrate effective interpersonal skills in working with others of different backgrounds

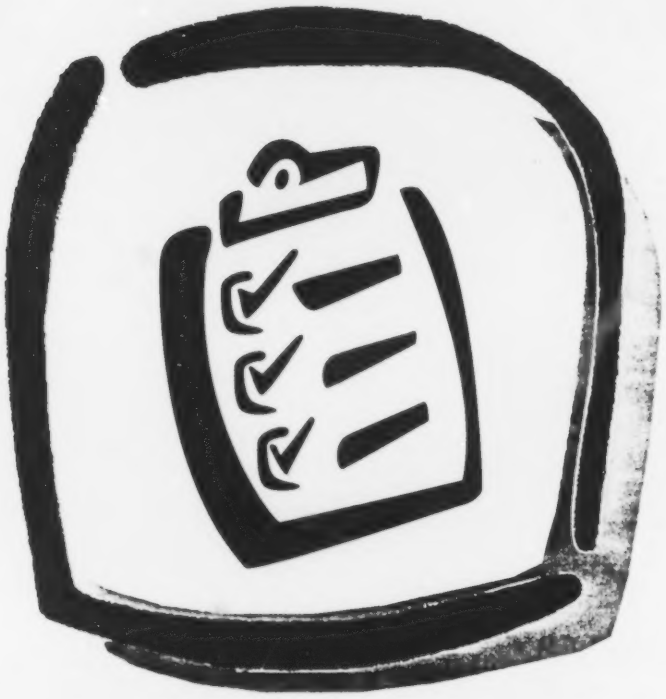
4.6.3 Express feelings, actions, and ideas respectfully

4.6.4 Identify appropriate strategies and solutions for dealing with cultural conflicts and differences

4.6.5 Demonstrate respect for diverse international business practices and etiquette

Planning and Managing a Career - Strand 5

Core ITAC



30

Expectation

Since work is a significant part of life, individuals need to be actively engaged in seeking a career that matches their interests, abilities, aptitudes, and skills. Career planning enhances the possibility that one's career path will lead to success and satisfaction in work. Employers seek individuals who know what they want from work and can effectively present their qualifications and skills through the job search process, including job applications and interviews. Throughout one's career, it is also important to seek continuous professional development opportunities.

Competencies

5.1 Identify how personal interests, abilities, and skills relate to choosing a career

5.2 Investigate career options

5.3 Chart career using career-planning skills

5.4 Demonstrate skills needed to enter or reenter the workforce

5.5 Demonstrate job-keeping skills

5.6 Upgrade career skills

5.7 Explore opportunities to create a business

Scenario

You have just been granted an interview for a position in the career area of your choice. Assuming you have completed all education and training necessary for this career, prepare to discuss why you selected the career, your long-range career goals, the skills you will bring to the workplace, and your long-term plan for professional development. Following the interview, obtain feedback about your ability to portray your interest and qualifications.

Guiding Questions

- What should you consider when planning a career?
- What are the implications of selecting a nontraditional career?
- What skills are needed to be successful in this career? How can you obtain those skills?
- Where can you obtain information about various careers and career opportunities?
- What communication skills will you use to convey your interest in and qualifications for this career?

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5.1 Identify how personal interests, abilities, and skills relate to choosing a career

Key Indicators:

- 5.1.1 Determine own interests and aptitudes
- 5.1.2 Relate personal interests to academic and occupational skills
- 5.1.3 Identify impact of abilities and skills on career development
- 5.1.4 Identify how self-knowledge relates to making career choices

5.2 Investigate career options

Key Indicators:

- 5.2.1 Identify career options, including self-employment and nontraditional careers
- 5.2.2 Identify the range of available career information sources
- 5.2.3 Research knowledge, abilities, and skills needed in each occupation using a variety of resources (e.g., handbooks, career materials, labor market information, computerized career-information delivery systems, and role models/mentors)
- 5.2.4 Select careers that best match interests and aptitudes
- 5.2.5 Analyze the impact of factors such as population, climate, employment trends, and geographic location on occupational choice
- 5.2.6 Assess differences in the wages, benefits, annual incomes, cost of living, and job opportunities associated with selected career options
- 5.2.7 Identify potential conflicts between interest/aptitudes and career choices
- 5.2.8 Identify how career choices influence family, personal life, and lifestyle
- 5.2.9 Assess labor market information pertaining to career options
- 5.2.10 Explore future trends and occupations in the world of work

5.3 Chart career using career-planning skills

Key Indicators:

- 5.3.1 Demonstrate use of career information
- 5.3.2 Identify elements of career planning
- 5.3.3 Summarize the educational requirements of various occupations
- 5.3.4 Identify skills that apply to a variety of occupations
- 5.3.5 Identify challenges that may interfere with individual career plan (e.g., gender issues, misinformation, expectations of others, and conditions of labor market)
- 5.3.6 Identify short-term and long-term goals for achieving career plan
- 5.3.7 Develop a career plan
- 5.3.8 Showcase interests, aptitudes, and skills utilizing a portfolio
- 5.3.9 Annually review/revise the individual career plan

5.4

Demonstrate skills needed to enter or reenter the workforce

Key Indicators:

5.4.1 Apply knowledge of personal abilities, interests, and skills to the seeking of employment regionally, nationally, and globally

5.4.2 Develop job-getting tools (including résumés, letters of application, portfolios)

5.4.3 Demonstrate job-getting skills (including locating acceptable jobs, interviewing, completing a job application, and interpreting an employee contract)

5.4.4 Demonstrate skill in a second language if required for the position

5.4.5 Maintain a portfolio demonstrating job competence and containing job-getting tools

5.5

Demonstrate job-keeping skills

Key Indicators:

5.5.1 Demonstrate strong communication skills orally, in writing, or via computer

5.5.2 Apply basic arithmetic and mathematics skills to job tasks

5.5.3 Apply thinking skills to job tasks (including creative thinking, decision making, reasoning, problem solving, interpretation of information)

5.5.4 Apply interpersonal skills in relating to others on the job

5.5.5 Identify an awareness of employer expectations for the job

5.5.6 Carryout job tasks in accordance with employer expectations

5.5.7 Display positive work ethic

5.6

Upgrade career skills

Key Indicators:

5.6.1 Identify personal and workplace changes that require upgrading of own skills

5.6.2 Modify own career goals based on personal and workplace changes

5.6.3 Analyze various education/training options for securing needed upgrading

5.6.4 Identify professional development opportunities

5.6.5 Participate in professional development activities

5.6.6 Recognize need for lifelong upgrading of career skills

5.7

Explore opportunities to create businesses

Key Indicators:

5.7.1 Identify an unmet need or opportunity for provision of a good or service

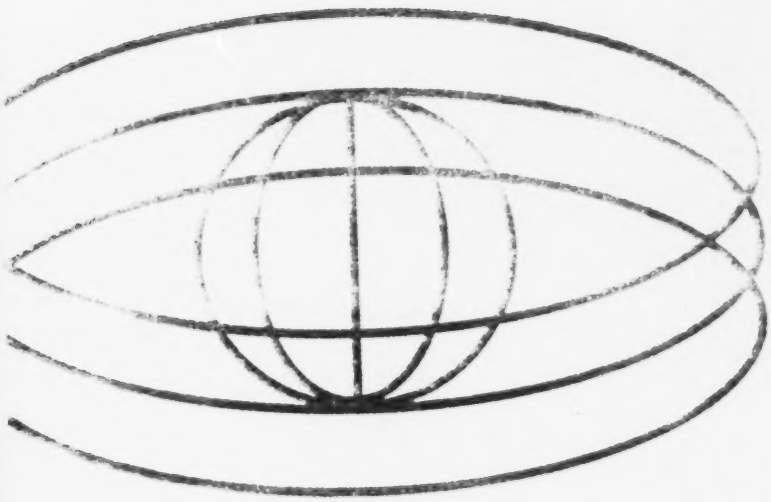
5.7.2 Identify potential target markets nationally and/or internationally

5.7.3 Identify factors that contribute to the success or failure of a business

5.7.4 Evaluate the costs and benefits of future opportunities (e.g., renovations, improvements, expansions, addition of new products or services, international trade opportunities)

5.7.5 Evaluate entrepreneurship and intrapreneurship opportunities

5.7.6 Identify components of a business plan, considering various factors for identified opportunities and marketing strategies (including population, climate, location, supply and demand, competition)



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Managing Resources - Strand **6**

Core ITAC

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Expectation

In high-performance workplaces, all individuals must effectively manage a variety of resources—personal, financial, and environmental. Individuals' ability to maintain good health, contribute to a safe work environment, and manage time not only enhances personal well-being, but fosters the success of the organization or business as well.

Competencies

6.1 Apply self-management processes in the workplace

6.2 Use reference materials to obtain information appropriate to a given problem, topic, or situation

6.3 Maintain/promote wellness

6.4 Determine the impact of government regulations and business/industry procedures on the performance of particular work functions

6.5 Implement safety procedures and programs

6.6 Support the provision of first aid in accordance with company policy and procedures

6.7 Manage work and family responsibilities for the well-being of self and others

6.8 Determine resources needed to produce a given product or provide a given service

6.9 Ensure the quality of products and services

6.10 Utilize an inventory control system to track supplies, materials, and equipment

6.11 Make informed financial decisions

Scenario

Your city has just experienced an outbreak of E.coli bacteria, which made a large percentage of the population ill. As a member of the city health department staff, your job is to analyze the potential causes of the outbreak and to educate the citizens and businesses in the community so as to prevent future outbreaks. Develop and present several communication tools, such as a 60-second television advertisement and a brochure, that convey your recommendations to prevent further contamination and illness.

Guiding Questions

- What food-handling and production practices contribute to E.coli contamination?
- What are the consequences of unsafe practices for individuals, businesses, and the community as a whole?
- What government regulations and business/industry policies impact the quality and safety of the foods we eat?
- How can individuals and families maintain good health and prevent E.coli contamination?

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6.1 **Apply self-management processes in the workplace**

Key Indicators:

6.1.1 Develop a system for organizing work
6.1.2 Apply time-management skills
6.1.3 Apply anger-management skills
6.1.4 Apply stress-management skills
6.1.5 Arrange work environment based on the principles of ergonomics
6.1.6 Maintain a work area conducive to productivity (e.g., neat, orderly)
6.1.7 Manage resources to support achievement of goals

6.2 **Use reference materials to obtain information appropriate to a given problem, topic, or situation**

Key Indicators:

6.2.1 Obtain needed technological and informational reference materials
6.2.2 Collect information from selected references
6.2.3 Evaluate the validity and reliability of the information obtained
6.2.4 Organize information for use in problem solving, decision making, or communications
6.2.5 Apply information to workplace situations

6.3 **Maintain/promote wellness**

Key Indicators:

6.3.1 Recognize positive and negative influences on wellness (including social activities, sports, hobbies, environment, health, emotions, economics)
6.3.2 Participate in the arts disciplines and/or extracurricular activities (including dance, music, theater, visual arts, sports) that promote wellness and balance within an individual
6.3.3 Follow wellness principles that result in significant, measurable improvements in own overall health condition and the health condition of peer(s)
6.3.4 Monitor health and health parameters
6.3.5 Act on environmental issues that influence wellness

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6.4

Determine the impact of government regulations and business/industry procedures on the performance of particular job functions

Key Indicators:

6.4.1 Identify the purpose of government regulations and their impact on the management of resources

6.4.2 Differentiate among federal, state, and local regulations and local business and industry procedures

6.4.3 Identify the various agencies involved in government oversight

6.4.4 Identify which regulations or guidelines take priority in a given situation

6.4.5 Locate information about the required process(es) for implementing regulations

6.4.6 Comply with regulations in the handling of materials, services, resources, and/or work activities (including inspection or self-monitoring)

6.5

Implement safety procedures and programs

Key Indicators:

6.5.1 Identify safety requirements

6.5.2 Demonstrate knowledge of safety rules and guidelines

6.5.3 Interpret safety signs and symbols

6.5.4 Demonstrate desirable safety attitudes and habits

6.5.5 Use safety equipment in accordance with established procedures

6.5.6 Document results of safety procedures and programs

6.6

Support the provision of first aid in accordance with company policy and procedures

Key Indicators:

6.6.1 Identify supplies and equipment needed in emergency situations

6.6.2 Locate supplies and equipment needed in emergency situations

6.6.3 Follow established procedures for the administration of first aid until official help arrives

6.6.4 Analyze the impact of stress throughout an emergency situation

6.6.5 Practice universal precautions during first aid procedures (including those related to blood-borne pathogens, confined spaces, emergency egress, fire safety, hearing conservation)

6.7

Manage work and family responsibilities for the well-being of self and others

Key Indicators:

6.7.1 Explore the meaning of work and the meaning of family

6.7.2 Analyze how work life is affected by families and how families are affected by work life

6.7.3 Implement strategies for balancing work and family roles

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6.8 **Determine resources needed to produce a given product or provide a service**

Key Indicators:

6.8.1 Identify the different types of resources involved in the production of a product or provision of a service (e.g., financial, human, material, equipment)

6.8.2 Create a management plan for the allocation of financial resources to meet financial goals

6.8.3 Plan for the appropriate allocation and use of materials and equipment

6.8.4 Plan for the allocation and use of human resources

6.8.5 Plan for the allocation and use of information and technology needed to make and support decisions

6.8.6 Plan for the allocation and use of natural resources

6.8.7 Plan for the allocation and use of space so as to make the best use of facilities for goal achievement

6.9 **Ensure the quality of products and services**

Key Indicators:

6.9.1 Identify the importance of individual and organizational productivity in the workplace and how it affects the profitability of the business

6.9.2 Determine the quality- and quantity-control standards and procedures required to produce a specific product or provide a specific service

6.9.3 Inspect the production of the product or provision of the service to assure quality levels

6.9.4 Monitor production of products and provision of services

6.9.5 Select equipment and raw materials that will support quality in the process of producing a product or providing a service

6.9.6 Interpret quantitative and qualitative records to identify problems and provide a basis for making decisions about the production of products and provision of services

6.9.7 Provide appropriate documentation regarding the quality of products and services

6.9.8 Identify corrective actions needed to improve the quality of products and services

6.9.9 Create new methods for improving the quality of products and services

6.10 **Utilize an inventory control system to track supplies, materials, and equipment**

Key Indicators:

6.10.1 Determine the factors, including regulations, that influence the type of control system used

6.10.2 Develop an inventory system

6.10.3 Maintain the inventory system

6.10.4 Report the inventory results

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6.11		**Make informed financial decisions**
6.11.1	Key Indicators:	Identify the need for personal financial management records
6.11.2		Create a budget
6.11.3		Evaluate the effectiveness of the budget
6.11.4		Demonstrate knowledge of how credit affects personal/family finances
6.11.5		Identify the steps to follow to avoid credit problems
6.11.6		Make informed consumer choices in response to personal needs and wants
6.11.7		Identify the factors that influence consumer decisions (e.g., advertisements, peer groups, price, location)
6.11.8		Recognize the value of company benefits and the importance of retirement planning
6.11.9		Identify the costs and benefits for individuals of various types of taxation at the local, state, and federal levels

41

Academic Connections in Core ITAC

Academic Connections answer the question, "What knowledge and skills from the Ohio Compentency-Based Education (CBE) Models are essential to the achievement of the Core competencies?" The academic content represented in the ITAC includes the subject areas from six models:

The Arts

Mathematics

Social Studies

Language Arts

Foreign Language

Science

These connections were identified by relating the content of the competencies in the Core ITAC strands to essential content from the objectives in the Ohio CBE Models. ITAC key indicators for each competency were used to clarify the nature and specificity of the connection. Subject-matter experts in each academic area verified the connections.

The following chart is a summary of the percentages of connections for each model. For specific connections between the core competencies and objectives in each model, visit the following website: <www.cete.org/products>. This summary does not represent all possible opportunities for interdisciplinary curriculum development. Many other connections could be made during the instructional process through authentic projects or workplace situations that involve related content.

Academic Connections in Core ITAC

The chart below illustrates the relationship between the Core ITAC and the objectives in Ohio's Competency-Based Education (CBE) Models. Each column represents the percent of the total number of CBE objectives, PreK–12 grade, that are related to each core competency.

Core ITAC Competencies	Academic Models: Percent of Model Relating to Core ITAC					
	The Arts	Math	Social Studies	Language Arts	Foreign Language	Science
Strand 1 — Solving Problems and Thinking Skillfully						
1.1 Solve problems and make decisions in work-related situations	52%	16%	4%	24%	0%	54%
1.2 Read for information and understanding	5%	1%	19%	33%	5%	32%
1.3 Use observation skills to analyze work-related situations	27%	5%	1%	42%	2%	39%
1.4 Apply mathematical processes	0%	62%	1%	<1%	4%	24%
1.5 Apply measurement and spatial skills	0%	22%	1%	0%	4%	28%
1.6 Apply statistical analysis skills	<1%	9%	<1%	1%	0%	12%
1.7 Analyze critical data to guide work activities	5%	0%	1%	1%	0%	27%
1.8 Utilize scheduling techniques to ensure that jobs are completed by the stated due date	<1%	0%	0%	3%	0%	1%
1.9 Demonstrate knowledge of the economy and how it functions as a whole	6%	0%	6%	1%	2%	0%
1.10 Demonstrate knowledge of the economy as a framework within which decisions are made by individuals and groups	3%	2%	6%	1%	4%	0%
Strand 2 — Communicating Effectively						
2.1 Apply basic communication skills	79%	3%	1%	67%	50%	20%
2.2 Apply oral communication skills	14%	5%	0%	18%	37%	10%
2.3 Apply written communication skills	5%	2%	0%	29%	13%	9%
2.4 Apply technical writing skills	2%	0%	0%	1%	0%	5%
2.5 Apply listening skills	4%	0%	1%	21%	8%	9%
2.6 Apply demonstration/presentation skills	20%	<1%	0%	6%	7%	4%
2.7 Apply graphic communication skills	12%	9%	2%	4%	5%	5%
2.8 Apply artistic communication skills	96%	<1%	1%	27%	8%	3%
2.9 Convey information through multimedia presentation	13%	0%	0%	2%	1%	4%
2.10 Create graphs and charts	3%	10%	2%	4%	5%	6%
2.11 Build interpersonal relationships	4%	0%	4%	5%	11%	7%

Core ITAC Competencies	Academic Models: Percent of Model Relating to Core ITAC					
	The Arts	Math	Social Studies	Language Arts	Foreign Language	Science
Strand 3 — Applying Technology						
3.1 Demonstrate technological literacy	5%	1%	1%	0%	0%	8%
3.2 Access/transmit information using electronic communication systems	<1%	0%	0%	2%	11%	2%
3.3 Demonstrate computer literacy	4%	2%	0%	4%	3%	4%
3.4 Use database software in work-related situations	0%	0%	0%	<1%	0%	3%
3.5 Use spreadsheet software in work-related situations	0%	<1%	0%	0%	0%	2%
3.6 Use word-processing software in work-related situations	<1%	0%	0%	2%	2%	2%
Strand 4 — Working Responsibly						
4.1 Demonstrate leadership	0%	0%	2%	1%	0%	4%
4.2 Contribute to teamwork	20%	0%	5%	23%	4%	5%
4.3 Choose ethical courses of action in all work assignments and personal interactions	0%	0%	<1%	1%	0%	4%
4.4 Demonstrate the work ethic	<1%	0%	1%	13%	3%	4%
4.5 Comply with the confidentiality requirements of workplace policies and procedures	0%	0%	0%	<1%	0%	1%
4.6 Apply appropriate strategies for dealing with the differences associated with diversity (e.g., racial, ethnic, gender, educational, personality, social, and age)	20%	0%	8%	20%	8%	4%
Strand 5 — Planning and Managing a Career						
5.1 Identify how personal interests, abilities, and skills relate to choosing a career	8%	0%	1%	11%	2%	1%
5.2 Investigate career options	6%	0%	0%	<1%	3%	1%
5.3 Chart career using career-planning skills	2%	0%	0%	<1%	2%	1%
5.4 Demonstrate skills needed to enter or reenter the workforce	4%	0%	<1%	1%	5%	<1%
5.5 Demonstrate job-keeping skills	0%	0%	0%	8%	<1%	0%
5.6 Upgrade career skills	0%	0%	0%	0%	0%	0%
5.7 Explore opportunities to create businesses	2%	0%	3%	0%	1%	0%

Core ITAC Competencies	Academic Models: Percent of Model Relating to Core ITAC					
	The Arts	Math	Social Studies	Language Arts	Foreign Language	Science
Strand 6 — Managing Resources						
6.1 Apply self-management processes in the workplace	5%	0%	3%	8%	8%	3%
6.2 Use reference materials to obtain information appropriate to a given problem, topic, or situation	12%	0%	1%	7%	<1%	4%
6.3 Maintain/promote wellness	<1%	0%	0%	8%	1%	1%
6.4 Determine the impact of government regulations and business/industry procedures on the performance of particular work functions	0%	0%	4%	0%	0%	0%
6.5 Implement safety procedures and programs	12%	0%	0%	<1%	0%	3%
6.6 Support the provision of first aid in accordance with company policy and procedures	0%	0%	0%	0%	0%	0%
6.7 Manage work and family responsibilities for the well-being of self and others	0%	0%	0%	<1%	0%	<1%
6.8 Determine resources needed to produce a given product or provide a given service	11%	0%	6%	2%	0%	1%
6.9 Ensure the quality of products and services	22%	0%	0%	8%	0%	<1%
6.10 Utilize an inventory control system to track supplies, materials, and equipment	0%	0%	0%	<1%	0%	<1%
6.11 Make informed financial decisions	0%	0%	2%	<1%	0%	0%

Core ITAC Acknowledgments

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Keith Meske, Educable TV 25, Columbus, Ohio
Sandy O'Connor, Clark County Dept. of Human Services, Springfield, Ohio
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James H. Orsborn, American Electric Power, Columbus, Ohio
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Charlie Pinter, Kroger, Gahanna, Ohio
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Morris Williams, Coalition of Neighborhoods, Cincinnati, Ohio

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Karen P. Heath, Ohio Department of Education, Columbus, Ohio
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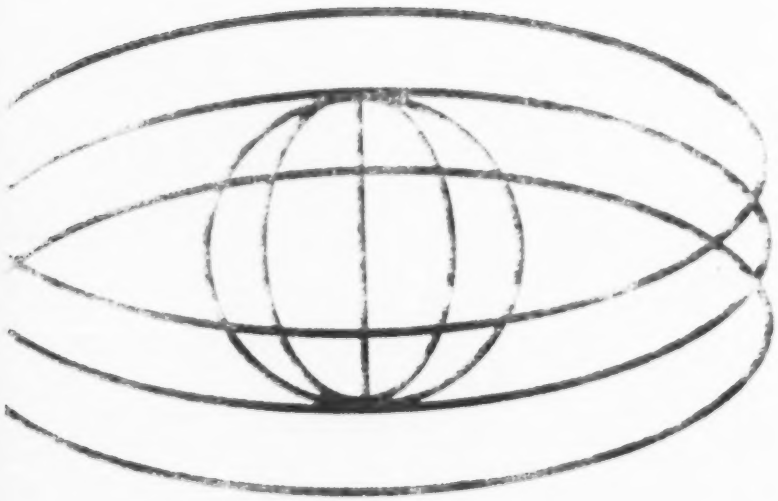
The following individuals provided technical assistance in identifying competencies, writing statements of expectation, and developing scenarios for the Integrated Technical and Academic Competencies (ITAC). Their assistance is much appreciated.

Dr. Ruth Loring, Center for Occupational Research and Development, Waco, Texas

Jane Sanborn, MPR Associates, Inc. and the National Center for Research in Vocational Education, Berkeley, California

Dr. Joyce Malyn-Smith, Education Development Center, Inc., Newton, Massachusetts.



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ITAC

Integrated Technical & Academic Competencies

CORE ITAC

for Career-Focused Education

Ohio Department of Education
Division of Career-Technical and Adult Education
Division of Professional Development and Licensure

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For more information and technical assistance contact
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